

REMARKS

By this Amendment, Applicants have amended claim 32 and added new claims 63-66. The amendment to claim 32 and the subject matter recited in new claims 63-66 are supported in the originally-filed disclosure at least at page 21, lines 4-24. Thus, no new matter has been added by the amendment and new claims. Claims 32-46, 48, 50-59, 61, and 63-66 are pending on the merits.

I. Claim Rejection under 35 U.S.C. § 103(a)

In the Office Action, claims 32-46, 48, 50-59, and 61 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,143,209 to Gerspacher et al. ("Gerspacher") in combination with U.S. Patent No. 4,725,340 to De Filippo et al. ("De Filippo") and U.S. Patent No. 4,859,811 to Sawada et al. ("Sawada"). Of the claims included in this claim rejection, only claim 32 is an independent claim. Although Applicants do not agree with the rejection of independent claim 32, Applicants have, in the interest of promoting expedited prosecution of the present application, amended claim 32 in order to further distinguish it from Gerspacher, De Filippo, and Sawada. To the extent, however, that the Examiner considers rejecting amended independent claim 32 based on Gerspacher, De Filippo, and Sawada, Applicants respectfully submit that such rejection would be improper because those references, regardless of whether they are viewed individually or in combination, fail to disclose or render *prima facie* obvious all of the subject matter recited in amended independent claim 32.

Applicant's amended independent claim 32 is directed to, *inter alia*, "[a] method for producing a metal wire for reinforcing an elastomeric material, wherein the metal

wire comprises: a metal core comprising steel; [and] a metal coating layer comprising a ternary metal alloy” Gerspacher, De Filippo, and Sawada, regardless of whether they are viewed individually or in combination, fail to disclose or render *prima facie* obvious at least this subject matter recited in independent claim 32.

Gerspacher discloses a process for making a rubber adherable wire, wherein the steel wire is plated with brass. (Abstract.) The brass-plated wire is then coated with zinc. (Id.) Gerspacher does not disclose, however, a metal wire comprising a metal core comprising steel, and a metal coating layer comprising a ternary metal alloy, as recited in amended independent claim 32. Thus, Gerspacher fails to disclose a method for producing a metal wire, wherein the metal wire comprises: a metal core comprising steel; [and] a metal coating layer comprising a ternary metal alloy” In particular, rather than disclosing a metal core comprising steel coated with a layer of “a ternary metal alloy,” as recited in amended independent claim 32, Gerspacher discloses coating a brass-plated wire with zinc in order to achieve the object of Gerspacher’s invention.

For at least the above-outlined reasons, Gerspacher fails to disclose or render *prima facie* obvious all of the subject matter recited in Applicants’ amended independent claim 32. Moreover, De Filippo and Sawada fail to overcome the above-noted deficiencies of Gerspacher. De Filippo discloses electroplating brass onto steel wires (Abstract), and Sawada discloses coating wires with the same material as the core wire via a vapor phase method (Abstract). Neither De Filippo nor Sawada discloses, however, coating a metal core comprising steel with a layer comprising “a ternary metal alloy,” as recited in Applicants’ amended independent claim 32. Thus, Gerspacher, De Filippo, and Sawada, regardless of whether they are viewed individually or in

combination, fail to disclose or render *prima facie* obvious all of the subject matter recited in Applicant's amended independent claim 32.

Applicants respectfully submit that exemplary embodiments according to the subject matter recited in amended independent claim 32 exhibit characteristics desirable for reinforcing elastomeric material, such as, for example, tires. For example, a metal wire for reinforcing elastomeric material in which the metal wire includes a steel metal core and a coating layer comprising a ternary metal alloy, as recited in independent claim 32, exhibits increased corrosion resistance of the metal wire, and further, increases the level of adhesion between the metal wire and the elastomeric material, particularly after aging. See, e.g., Applicants' specification at p. 21. These characteristics are particularly desirable for application in tires. Gerspacher, De Filippo, and Sawada fail to disclose or render *prima facie* obvious a metal wire for reinforcing elastomeric material in which the metal wire includes a steel metal core and a coating layer comprising a ternary metal alloy. Thus, they may not exhibit such characteristics.

In addition to the above-outlined reasons, Applicants respectfully submit that the rejection under § 103(a) based on based on Gerspacher in combination with De Filippo, and Sawada, is improper because a person having ordinary skill in Gerspacher's art relating to processes for making wire for reinforcing tires would not have looked to Sawada's disclosure relating to processes for making high quality electrical conductors for use in winding magnet coils, acoustic- and image-forming appliances, and for connecting semiconductor elements in integrated circuits.

According to the M.P.E.P., if a reference is not one which, because of the matter with which it deals, logically would have commanded itself to an inventor's attention in

considering his or her invention as a whole, the reference is non-analogous art.

§ 2141.01(a). Moreover, if a reference is non-analogous art, it cannot be relied on a claim rejection under 35 U.S.C. § 103(a). Id.

Applicants respectfully submit that there is no reason an ordinary artisan skilled in Gerspacher's art relating to processes for making wire for reinforcing tires would reasonably be expected to look to the art of making high quality electric conductors for audio devices and integrated circuits. Indeed, Gerspacher is concerned with the problem of improving the adhesion between the wire and the elastomeric material of tires, and to that end, with improving electroplating processes for coating a steel wire with brass. In contrast, Sawada is concerned primarily with the problem of improving the quality and reliability of an electrical conductor, along with reducing the diameter of the electrical conductor, including coating a core wire with a coating a of the same kind of material (e.g., coating a copper core wire with a copper coating) using a vapor deposition method. Thus, it is not reasonable to expect that an artisan in Gerspacher's field of reinforcing wires for tires would look to Sawada's electrical conductor field to solve a problem that has not been shown to be of interest in Gerspacher's field. Thus, Sawada is non-analogous art. For at least this additional reason, the Gerspacher and Sawada references, when viewed as a whole, do not render Applicants' independent claim 32 *prima facie* obvious.

In the "Response to Arguments" section, the Examiner asserts that:

1. "the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference" (Office Action at 5);

2. "the objectives of Sawada's teachings clearly make evident to the skilled artisan the advantage and objective to coating using vapor deposition (sputtering) or chemical vapor deposition (plasma CVD)" (id.); and
3. "Sawada and Gerspacher are both directed to manufacturing problems of coating wire where the material is processed subsequent to the coating by drawing," and further, that "the skilled artisan would have been expected to look to the arts involving the processing of wire regardless of how the processed wire may or may not be used" Id. at 6-7.

Applicants respectfully disagree with the Examiner's assertions. First, Applicants respectfully submit that the assertion regarding whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference, is immaterial with respect to whether a person skilled in one field would look to another field for teachings. Applicants have not argued that the features of Sawada's teachings could not be bodily incorporated into the structure of Gerspacher (although Applicants do not concede that they could be). Rather, Applicants have noted that there is no reason an ordinary artisan skilled in Gerspacher's art relating to processes for making wire for reinforcing tires would reasonably be expected to look to the art of making high quality electric conductors for audio devices and integrated circuits.

Applicants respectfully disagree with the Examiner's assertion that Sawada's teachings relating to purported advantages and objectives of coating using vapor deposition (sputtering) or chemical vapor deposition (plasma CVD), would necessarily result in an artisan skilled in Gerspacher's art of electroplating reinforcing wire for tires looking to Sawada's unrelated art. Specifically, Gerspacher discloses a process for

making rubber-adherable wire for reinforcing rubber articles, such as tires, using an electroplating process. Indeed, Gerspacher discloses that “[t]he present invention is directed specifically toward control of surface oxide layer during the plating and drawing process.” (Col. 1, lines 29-31 (emphasis added).) In other words, Gerspacher’s “invention” is to reduce the creation of an oxide layer during an “electroplating process.” Thus, Gerspacher’s teachings relate to improving a process for electroplating brass onto steel wire, and thus, a person skilled in Gerspacher’s art would not look to Sawada’s art that does not relate to electroplating. Indeed, modifying Gerspacher’s teachings by replacing its electroplating process with Sawada’s deposition coating technique would result in changing the principle disclosed in Gerspacher. Thus, a person skilled in Gerspacher’s art would not look to Sawada’s art that does not relate to electroplating.

With respect to the assertion that Sawada and Gerspacher are both directed to manufacturing problems of coating wire where the material is processed subsequent to the coating by drawing, Applicants note that the Examiner’s assertion characterizes the sole commonality between the teachings of Gerspacher and Sawada in an overly broad manner that is immaterial with respect to whether someone in Gerspacher’s field of making reinforcing wires for tires would reasonably be expected to look to Sawada’s field relating to electrical conductors for acoustic appliances and semiconductor elements. A similar analogy might be made between paving roads and depositing thin films on semiconductor wafers and characterizing those fields as being related because they both relate to depositing barriers on surfaces. Applicants respectfully submit that a skilled artisan in Gerspacher’s field of making reinforcing wires is about as likely to seek

out the teachings of Sawada relating to "very thin" electrical conductors of "less than 30 μm " (col. 3, lines 7, 8), as an artisan skilled in road paving would be to seek out the teachings of an artisan skilled in semiconductor wafer manufacturing for improvements in road paving techniques.

For at least the above-outlined reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of independent claim 32, as well as the rejection of claims 33-46, 48, 50-59, and 61, which depend from independent claim 32, under 35 U.S.C. § 103(a) based on Gerspacher in combination with De Filippo, and Sawada.

II. **New Dependent Claims 63-66**

Applicants' new dependent claims 63-66 depend from independent claim 32 and recite subject matter that is further distinguishable from Gerspacher, Di Filippo, and Sawada, regardless of whether those references are viewed individually or as a whole. Thus, new claims 63-66 are patentably distinguishable from those references for at least the same reasons as independent claim 32. Further, none of Gerspacher, Di Filippo, and Sawada discloses or renders *prima facie* obvious:

1. "depositing the metal coating layer [(comprising a ternary metal alloy)] on the metal core . . . via a single deposition step," as recited in claim 63;
2. a "ternary metal alloy of the metal coating layer compris[ing] a Cu-Zn-X alloy, wherein X comprises at least one of manganese, cobalt, tin, molybdenum, and iron," as recited in claim 64;

3. "depositing the metal coating layer on the metal core . . . via . . . depositing a brass layer on the core; and depositing a layer comprising at least one of manganese, cobalt, tin, molybdenum, and iron on the brass layer," as recited in claim 65; or
4. a "brass layer ha[ving] a crystalline structure consisting of a face-centered-cubic brass," as recited in claim 66.

Gerspacher, Di Filippo, and Sawada, regardless of whether they are viewed individually or in combination, fail to disclose or render *prima facie* obvious at least this subject matter recited in new claims 63-66.

As outlined previously herein, Gerspacher discloses coating a brass-plated steel wire with zinc. (Abstract.) Thus, Gerspacher does not disclose the subject matter recited in claims 63-66. Moreover, Gerspacher teaches away from not coating its brass-plated steel wire with zinc by disclosing that "[t]he primary object [of the invention] is achieved by coating brass-plated steel wire with a thin layer of zinc" (Col. 2, lines 12-14.) Thus, not only does Gerspacher fail to disclose the subject matter recited in Applicants' new claims 63-66, Gerspacher teaches away from being hypothetically modified in a manner that would result in the subject matter recited in claims 63-66.

De Filippo and Sawada fail to overcome these deficiencies of Gerspacher.

For at least the above-outlined reasons, Applicants' new claims 63-66 are patentably distinguishable from Gerspacher, De Filippo, and Sawada, regardless of whether those references are viewed individually or in combination. Therefore, Applicants respectfully request timely allowance of new claims 63-66.

III. Conclusion

As outlined above, independent claim 32 should be allowable. Dependent claims 33-46, 48, 50-59, and 61, as well as new dependent claims 63-66, depend from allowable independent claim 32. Therefore, each of those dependent claims should be allowable for the same reasons as independent claim 32, as well as by virtue of their recitations of additional novel and non-obvious subject matter.

Applicants respectfully request reconsideration of this application, withdrawal of the claim rejection, and allowance of claims 32-46, 48, 50-59, 61, and 63-66.

If the Examiner believes that a telephone conversation might advance prosecution, the Examiner is cordially invited to call Applicants' undersigned attorney at (404) 653-6559.

Applicants respectfully submit that the Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account 6-0916.

Respectfully submitted,

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